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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,651	09/30/2003	Paul G. Janitch	00580-0188US	5829
32116	7590	10/13/2005	EXAMINER	
WOOD, PHILLIPS, KATZ, CLARK & MORTIMER 500 W. MADISON STREET SUITE 3800 CHICAGO, IL 60661			TRAN, CHUC	
			ART UNIT	PAPER NUMBER
			2821	

DATE MAILED: 10/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/675,651

Applicant(s)

JANITCH ET AL.

Examiner

Chuc D. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 and 25-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16, 25, 26, 28, 29, 32 and 33 is/are rejected.
- 7) ☒ Claim(s) 17, 27, 30 and 31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

In response to the Applicant's remarks on July 21, 2005. In the virtue of the restriction/election, claims 18-24 and 34-37 are cancelled; and thus, claims 1-17 and 25-33 are now remaining active in the instant application.

Response to Arguments

1. Applicant's arguments filed July 21, 2005 have been fully considered but they are not persuasive.

Applicants argue that the patent by Wien et al does not disclose a loop launcher, a waveguide and each of every element in claims 1-17 and 25-33. The Examiner respectfully disagree. The patent for Wien et al clearly teach in Fig. 5, a loop launcher (5) connected to a control (6); a waveguide (13); and antenna (4) coupled to the waveguide (13) (Fig. 5). Applicants also argue that the patent by Wient et al does not teach or suggest the loop launcher is asymmetrically. The patent by Weint et al clearly teach the loop launcher is asymmetrically (Col. 2, Line 47).

Claim Objections

2. Claim 30 is objected to because of the following informalities:

Claim 30, line 3, "a" (process vessel) change to - - the - -.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-5, 7, 9-17, 25 and 28-33 are rejected under 35 U.S.C. 102(b) as being anticipated by Wien et al (USP. 6,202,485).

Regarding claim 1, Wien et al disclose a process control instrument in Fig. 5 comprising:

- a control (microwave source) for generating or receiving a high frequency signal (Col. 6, Line 8) (Abstract);
- a waveguide (13) comprising a cylindrical housing closed at one end by a rear wall (2) (Fig. 5);
- a loop launcher (5) operatively connected to the control (Col. 5, Line 35) and comprising a wire (5) having a first straight leg electrically connected at one end to the control (Fig. 1) and extending into the waveguide a first select length (Fig. 1) (Col. 5, Line 51), a second straight leg connected at one end to the rear wall and extending into the waveguide a second select length greater than the first select length (Fig. 1) (Col. 5, Line 51), and a curved middle section connecting other ends of the first and second straight legs (Fig. 1) (Col. 5, Line 51); and
- an antenna (4) operatively coupled to the waveguide (13) (Fig. 5).

Regarding claim 3, Wein et al disclose that the first leg is located off center in the waveguide (13) (Fig. 5).

Regarding claim 4, Wein et al disclose that the first select length is about a quarter wavelength (Col. 5, Line 57).

Regarding claim 5, Wein et al disclose that the waveguide (13) has a length of about three-quarter waveguide wavelength (Col. 5, Line 60).

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Regarding claim 7, Wein et al disclose that the loop launcher (5) is asymmetrically placed entirely on one side of an axis of the waveguide (13) (Fig. 5) (Col. 2, Line 47).

Regarding claim 9, Wein et al disclose that the waveguide (13) is filled with a dielectric material substantially surrounding the loop launcher (5) (Col. 6, Line 46) .

Regarding claim 10, Wein et al disclose that a coupling cavity (131) surrounding the waveguide (13) for coupling the antenna (4) to the waveguide (Fig. 1) (Col. 5, Line 30).

Regarding claim 11, Wein et al disclose that the coupling cavity (131) is formed of metal to define an intermediate waveguide (Col. 5, Line 36).

Regarding claim 12, Wein et al disclose a process control instrument in Fig. 5 comprising:

- a control for generating or receiving a high frequency signal (Col. 6, Line 10) (Abstract);
- a waveguide (13) comprising a cylindrical housing open at a distal end and closed at an inner end by a rear wall (2) (Fig. 5);
- a loop launcher (5) operatively connected to the control and comprising a wire (5) (Col. 5, Line 43) electrically connected at one end to the control (Fig. 1) and extending into the waveguide (13) and connected at another end to the rear wall (2) (Fig. 5) (Col. 5, Line 40);
- a coupling cavity (131) comprising an open cylinder surrounding the waveguide (13) (Fig. 1) and extending beyond the waveguide open end (Fig. 5); and
- an antenna (4) operatively coupled to the coupling cavity (131) and the waveguide (13) (Fig. 5).

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Regarding claim 13, Wein et al disclose that the coupling cavity extends beyond the waveguide open end a length in a range of about 7, 9, 11 or higher odd multiples of quarter waveguide wavelength (Fig. 5).

Regarding claim 14, Wein et al disclose that the coupling cavity (131) is of metal construction (Fig. 5).

Regarding claim 15, Wein et al disclose that the coupling cavity (131) comprises a process connection (Fig. 5).

Regarding claim 16, Wein et al disclose that the loop launcher (5) comprises a wire (5) having a first straight leg electrically connected at one end to the control (Col. 5, Line 34) and extending into the waveguide a first select length (Fig. 1), a second straight leg connected at one end to the rear wall (2) and extending into the waveguide (13), a second select length greater than the first select length (Fig. 1), and a curved middle section connecting other ends of the first and second straight legs (Fig. 1).

Regarding claim 25, Wein et al disclose a process control instrument in Fig. 5 comprising:

- a housing (Fig. 1); a control in the housing for generating or receiving a high frequency signal (Col. 5, Line 36);
- a waveguide (13) comprising a cylindrical housing closed at one end by a rear wall (2) (Fig. 1);
- a loop launcher (5) operatively connected to the control and comprising a wire (5)

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electrically connected at one end to the control (Fig. 1) and extending into the waveguide and connected at another end to the rear wall (2) to develop an asymmetrical radiated electromagnetic field (Col. 2, Line 11 and 47) (Fig. 1);

- an antenna (4) operatively coupled to the waveguide (Fig. 1); and
- means for rotatably mounting the waveguide (13) to the housing so that the housing and the loop launcher (5) can be independently oriented relative to a process vessel (Abstract) (Fig. 1).

Regarding claim 26, Weint et al disclose that a waveguide adapter (131) defining a rear wall of the waveguide (Fig. 1) and having a thread (Fig. 1).

Regarding claim 28, Wein et al disclose that the waveguide comprise a two piece assembly including a waveguide adapter operatively secured to the housing and a waveguide adapter tube extending from the waveguide adapter and defining the cylindrical housing so that the waveguide adapter defines the rear wall (2) (Fig. 5) (Col. 5, Line 1).

Regarding claim 29, Wein et al disclose that a conductor (6) passing through the waveguide adapter for connecting the loop launcher (5) to the control (Fig. 5) (Col. 5, Line 35).

Regarding claim 32, Wein et al disclose that the loop launcher (5) comprises an asymmetrical wire (Col. 2, Line 47).

Regarding claim 33, Wein et al disclose that the loop launcher (5) comprises a wire (5) having a first straight leg electrically connected at one end to the control (Fig. 1) and extending into the waveguide (13) a first select length (Fig. 1), a second straight leg connected at one end to the rear wall (2) and extending into the waveguide a second select length, greater than the first

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select length (Fig. 1), and a curved middle section connecting other ends of the first and second straight legs (Fig. 1).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2, 6 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wein et al (USP. 6,202,485).

Regarding claims 2, 6 and 8, Wein et al disclose the process control instrument as set forth in the claims except the second leg of loop launcher is located at a center axis of the waveguide, the curved middle section of the loop launcher has a radius of about 10mm, and the first loop launcher leg is parallel with the second loop launcher leg. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wein et al by making the second leg of loop launcher is located at a center axis of the waveguide, the curved middle section of the loop launcher has a radius of about 10mm, and the first loop launcher leg is parallel with the second loop launcher leg. The ordinary skill artisan would have been motivated to modify Wein et al in the manner described above for providing the control microwave pulses for generating or receiving a high frequency with a center frequency about 6 GHz as described in Wein et al (Col. 7, Line 27).

Allowable Subject Matter

7. Claims 17, 27 and 30-31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 17, 27 and 30-31, the references of the prior art of record fails to teach or suggest the combination of the limitations as set forth in the claims: a union nut operatively secured to the waveguide for threading relative to the antenna at any angular orientation; to include a set of screws in the housing maintains the waveguide adapter in a desired rotational position.

9. The indicated allowability of claim 26 is withdrawn in view of the newly discovered reference(s) to Weint et al.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuc D. Tran whose telephone number is (571) 272-1829. The examiner can normally be reached on M-F Flex hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TC

October 6, 2005


TUYET VO
PRIMARY EXAMINER